

United States Patent and Trademark Office



UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

PPLICATION NO. FILING DATE		ILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO		
10/603,566	3,566 06/25/2003		Valerie Wittamer	9409/2045B			
29933	7590	01/19/2006		EXAM	INER		
PALMER (& DODG	E, LLP		LI, RUIX	KIANG		
KATHLEEI 111 HUNTI				ART UNIT	PAPER NUMBER		
BOSTON,	MA 0219	9		1646			

DATE MAILED: 01/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)					
	10/603,566	WITTAMER ET AL.					
Office Action Summary	Examiner	Art Unit					
	Ruixiang Li	1646					
The MAILING DATE of this communication app Period for Reply	ears on the cover sheet with the c	orrespondence address					
A SHORTENED STATUTORY PERIOD FOR REPLY WHICHEVER IS LONGER, FROM THE MAILING DA - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory period w - Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMUNICATION 36(a). In no event, however, may a reply be tim vill apply and will expire SIX (6) MONTHS from cause the application to become ABANDONE	I. lely filed the mailing date of this communication. D (35 U.S.C. § 133).					
Status							
1) Responsive to communication(s) filed on 20 O	ctober 2005.						
2a) This action is FINAL . 2b) ⊠ This	action is non-final.						
3) Since this application is in condition for allowar	nce except for formal matters, pro	secution as to the merits is					
closed in accordance with the practice under E	x parte Quayle, 1935 C.D. 11, 45	53 O.G. 213.					
Disposition of Claims							
4)⊠ Claim(s) <u>1-10,20 and 22</u> is/are pending in the a	application.						
4a) Of the above claim(s) <u>6-9</u> is/are withdrawn							
5) Claim(s) is/are allowed.							
6) Claim(s) 1-5,10,20 and 22 is/are rejected.							
7) Claim(s) is/are objected to.							
8) Claim(s) are subject to restriction and/or	r election requirement.						
Application Papers							
9) The specification is objected to by the Examine	r.						
10) \boxtimes The drawing(s) filed on <u>06/25/2003</u> is/are: a) \boxtimes		the Examiner.					
Applicant may not request that any objection to the	, , , , ,						
Replacement drawing sheet(s) including the correct	ion is required if the drawing(s) is ob	ected to. See 37 CFR 1.121(d).					
11) ☐ The oath or declaration is objected to by the Ex	aminer. Note the attached Office	Action or form PTO-152.					
Priority under 35 U.S.C. § 119							
12) ☐ Acknowledgment is made of a claim for foreign a) ☐ All b) ☐ Some * c) ☐ None of:	priority under 35 U.S.C. § 119(a))-(d) or (f).					
 Certified copies of the priority documents 	s have been received.						
2. Certified copies of the priority documents	s have been received in Applicati	on No					
Copies of the certified copies of the prior	rity documents have been receive	ed in this National Stage					
application from the International Bureau	` '''						
* See the attached detailed Office action for a list	of the certified copies not receive	d.					
	•						
Attachment(s)	_						
Notice of References Cited (PTO-892) Notice of Draftsperson's Patent Drawing Review (PTO-948)	4) Interview Summary Paper No(s)/Mail Da						
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 10/3/03 & 6/2/05.		atent Application (PTO-152)					

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I (claims 2-4, 10, 20, and 22) and species of SEQ ID NO: 61 in the reply filed on 10/20/2005 is acknowledged. In view of Applicants' elected species, claim 5 will be included in Group I. The traversal is on the ground that the polypeptide of SEQ ID NO: 92 is common to the sequences of all three groups and therefore a search of Group I will necessarily encounter the sequences of Groups II and III. This is not found persuasive because while SEQ ID NO: 61, a single species of degenerate SEQ ID NO: 92, is common to the sequences of all three groups, not all the encompassed species are common to the polypeptides of all three groups. Moreover, even for the elected species, SEQ ID NO: 61, which is common to the polypeptides of all three groups, a search of SEQ ID NO: 61 is not sufficient for the search of other polypeptides. For example, if the prior art teaches polypeptide comprising SEQ ID NO: 61, it does not necessarily mean that the prior art teaches SEQ ID NOS: 12, 14, or 73. Thus, the polypeptides of Groups I, II, and III require non-cohensive searches and considerations.

Applicants also argue that claim 1 is a linking claim that links Group I to Group III. This is not persuasive because as written, the claims of Group III do not depend upon claim 1 and thus are not linked by claim 1.

The requirement is still deemed proper and is therefore made FINAL.

Art Unit: 1646

Applicants' preliminary amendments filed on 09/22/2003, 01/15/2004, 06/08/2004, and 03/24/2005 have been entered in full. Claims 1-10, 20, and 22 are pending.
 Claims 1-5, 10, 20, and 22 are under consideration.

Information Disclosure Statement

3. The information disclosure statements filed on 10/03/2003 and 06/02/2005 have been considered by the examiner.

Drawings

4. The drawings filed on 06/25/2003 are accepted by the Examiner.

Claim Rejections—35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-5 are rejected under 35 U.S.C. §101 because the claimed invention is directed non-statutory subject matter.

Claims 1-5, as written, do not sufficiently distinguish over a peptide that exists naturally because the claims do not particularly point out any non-naturally occurring differences between the claimed products and the naturally occurring products. In the absence of the hand of man, the naturally occurring products are considered non-statutory subject matter. See Diamond v. Chakrabarty, 447 U.S. 303, 206 USPQ 193 (1980). The claims should be amended to indicate the hand of the inventor, e.g., by

insertion of "isolated" or "purified" as taught by page of the specification. See MPEP 2105.

Claim Rejections—35 USC §102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
- 8. Claims 1-5 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagpal et al. (*J. Invest. Dermatol.* 109: 91-95, 1997).

Nagpal et al. teach a polypeptide that comprises the polypeptide of SEQ ID NO: 61 (see attached sequence alignment), meeting the limitations of claims 1-5 and 20.

9. Claims 1-5, 10, 20, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Lal et al. (US Patent Application Publication No. 2005/0084936 A1, publication date: April 21, 2005; 102 (e) date: December 31, 1997).

Lal et al. teach a polypeptide that comprises the amino acid sequence of SEQ ID NO: 61 (see attached sequence alignment summary table), a pharmaceutical composition comprising the polypeptide (see [0028], [0305] to [0322]), and the

Application/Control Number: 10/603,566 Page 5

Art Unit: 1646

labeled polypeptide with fluorescent probe (see [0269]) or an epitope tag (see

[0270]), meeting the limitations of claims 1-5, 10, 20, and 22.

Conclusion

10. No claims are allowed.

Advisory Information

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Ruixiang Li whose telephone number is (571) 272-0875.

The examiner can normally be reached on Monday through Friday from 8:30 am to 5:00

pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Brenda Brumback, can be reached on (571) 272-0961. The fax number for

the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, please contact the Electronic

Business Center (EBC) at the toll-free phone number 866-217-9197.

Kurtiang L. Ruixiang Li, Ph.D.

Primary Examiner

January 6, 2005

```
NUCLEOTIDE SEQUENCE
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rissum=skin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HUMAN
                                                                                                                                                   696660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TIG2_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
33
                                                                                  TAREA 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                pongo pygma
homo sapien
cricetulus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    entamoeba h
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            encephalito
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 chromobacte
arabidopsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    homo sapien
homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mus.musculu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       candida alb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          homo sapien
xylella fas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   eudomonas
Molobus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rattus norv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            acinetobact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  debaryomyce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             xylella fas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        endomonas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                backeroides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             bacteroides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mycoplasma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                egionella
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      wolinella
rhizobium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       anopheles
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                        ); Search time 234 Seconds
(without alignments)
27.136 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q88yel
Q9w0us
Q521z5
Q8wtv0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          65buu6
099fm4
09poc8
09poc8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q4zm30 | Q88ah9 | Q4j8w1 | Q51899 | Q64nj9 | Q64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q5r551
Q71e02
Q8hdg8
Q5bd77
Q7mr17
Q989d1
Q96d06
Q516h6
Q516h6
Q7nas9
Q7nas9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               098ug3
07qc17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      696660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q5aia8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2166443
                          5.1.6
Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ts satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                         2166443 segs, 705528306 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CHRVO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ANOGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       O9WOUS DROME
O52LZS HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEBHA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BACFN
                     GenCore version
Copyright (c) 1993 - 2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ENTHI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MYCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DROME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CANAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LEGPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ENCCU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2989D1 RHIL
                                                                                                                                                                           2, 2005, 05:45:20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                           - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q5L899_E
Q64NJ9_E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q8SYE1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q4J8W1_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q59FM4
                                                                                                                                                                                                                                                                                                                                                                                                         Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q7NAS9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q87DL1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               09SUG3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             UniProt_05.80:*
1: uniprot sprot:*
2: uniprot trembl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                      US-10-603-566A-61
51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                              1 YPPGQFAFS 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  552
554
569
                                                                                                                                                                             December
                                                                                                                                                                                                                                                                                                                                                                                 BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  \begin{array}{c} 8888 \\ 899 \\ 200 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201 \\ 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Total number of
                                                                                                                                                                                                                                                                                                        re:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Scoring tabl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 08
08
                                                                                                                                                                                                                                                                                                           BCO
                                                                                                                           otein
                                                                                                                                                                                                                                                                                                                                   Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Minimum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š.
                                                                                                                        OM PÀ
                                                                                                                                                                        Run
```

```
A transberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
Alausner R.D., Collins F.S., Wagner L., Shemmen C.M., Schuler G.D.,
Alackhul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Altschul S.F., Jordan H., Moore T. Max. Si., Wang J., Heieh F.,
Backhenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Biatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Brownstein M.J., Usdin T.B., Ponaldo M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Usdin T.B., Toshryuki S., Carninci P., Prange C.,
Romas S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Whiting M., Madan A., Young A.C., Shevohenko Y., Bouffard G.G.,
Richards Y.S.M., Trouchman J.W., Green E.D., Dickson M.C.,
Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
Rutterfield Y.S.N., Krzywinski M.I., Sahalka U., Smailus D.E.,
Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
Generation and initial analysis of more than 15,000 full-length human,
                                                                                               xylella fas
                                                                                                                        xanthomonas
                                                                                                                                                                                     xanthomonae
                                                                                                                                                                                                                                                                        nomo sapien
oos taurus
                                                                                                                                                  rattus norv
                                                                                                                                                                                                                  xanthomonas
                                                                                                                                                                                                                                           mus musculu
                                                                                                                                                                                                                                                                                                                                                                    synechococc
                                                                                                                                                                                                                                                                                                                                 taurus
                                                            eishmania
                                   ralstonia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUB-Gastric adenocarcinoma;
MEDLINE-99173880; PubMed=10072769; DOI=10.1016/S0378-1119(99)00004-9;
Yokoyama-Kobayashi M., Yamaguchi T., Sekine S., Kato S.;
"Selection of CDNAs encoding putative type II membrane proteins on the cell surface from a human full-length CDNA bank.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Butheria, Buarchontoglires, Primates, Catarrhini, Hominidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tazarotene-induced gene 2 (TIG2), a novel retinoid-responsive gene in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE-97348957; PubMed=9204961; DOI=10.1111/1523-1747.ep12276660; Nagpal S., Patel S., Jacobe H., DiSepio D., Ghosn C., Malhotra M., Teng M., Duvic M., Chandraratna R.A.S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30-MAY-2000 (Rel. 39, Last sequence update)
10-MAY-2005 (Rel. 47, Last annotation update)
Retinoic acid receptor responder protein 2 precursor (Tazarotene-
induced gene 2 protein) (RAR-responsive protein TIG2)
Name-RARRES2; Synonyms=TIG2;
Homo saplens (Human)
                                                                                                                                                                                                                                                                                                       bos
                                                         044172
087ay1
085n87
040r87
040r81
080bn1
014028
077658
                                   08xpe3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            163 AA.
                                                  QQUYZ_LEIMA
Q87AYI_XYLFY
Q8PN87_XANAC
O55157_RAT
Q4URW8_XANCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ALIGNMENTS
YM20 YEAST
Q8XPS3_RALSO
                                                                                                                                                                                                                                           MOUSE
                                                                                                                                                                                                                                                                                                                                                                    SYNEI
                                                                                                                                                                                                                                                                           HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Invest. Dermatol. 109:91-95(1997)
                                                                                                                                                                                                                                                                           CNGB1 H
077658 |
047659 |
                                                                                                                                                                                                                                           Q80XL8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10-MAY-2000 (Rel. 39, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                    938
948
949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gene 228:161-167(1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUCLEOTIDE SEQUENCE.
```

```
Created)
                                                0;
                                                                                                                                                                                                                                                                                                                                                      O-MAY-2005 (TrEMBLrel. 30,
                                                                                                                                                                                                                                                                                                   Q7LE02_HUMAN PRELIMINARY;
                                                  Conservative
                                                                                                                                                              149 YFPGQFAFS 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Wilson R.;
Submitted (JAN-2004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Waterston R.;
Submitted (SEP-2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Waterston R.;
Submitted (APR-2003)
                                                                                                        1 YFPGQFAFS 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUCLEOTIDE SEQUENCE
Query Match
Best Local Similarity
Matches 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=$606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wilson R.
                                                                                                                                                                                                                                                                       HUMAN
                                                                                                                                                                                                                                       RESULT 3

OF SULT 1

OF SULT 3

OF SULT 3

OF SULT 3

OF SULT 5

O
                                                                                                                                                           g
                                                                                                              à
                                                                                                                                                                                                                                  This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ô
                         Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
-!- SUBCELLULAR LOCATION: Secreted (Potential).
-!- TISSUE SPECIFICITY: Highly expressed in skin (basal and suprabasal layers of the epidermis, hair follicles and endothelial cells).
Also found in pancreas, liver, spleen, prostate, ovary, small intestine and colon.
                                                                                                                                                                                       -!- INDUCTION: Inhibited in psoriatic lesions. Activated by tazarotene in skin rafts and in the epidermis of psoriatic lesions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pongo pygmaeus (Orangutan).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        informatics Institute. There are no restrictions on a content is in no way modified and this statement is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Potential.
Retinoic acid receptor responder protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Retinoic acid receptor responder protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 51; DB 1; Length 163; 100.0%; Pred. No. 0.091;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE-LYver;
The German cDNA consortium;
Submitted (NOV-2004) to the EMBL/GenBank/DDBJ databases.
--- SUBCELLWIAR LOCATION: Secreted (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A96EB7D0999EC3DB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A96EB7D5D2D1726B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-MAY-2005 (Rel. 47, Created)
10-MAY-2005 (Rel. 47, Last sequence update)
10-MAY-2005 (Rel. 47, Last annotation update)
Retinoic acid receptor responder protein 2 precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                163 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GO; GO:0001523; P:retinoid metabolism; IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ensembl; ENSG0000106538; Homo sapiens.
HGNC; HGNC:9868; RARRES2.
H-InvDB; HIXO007202; --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUCLEOTYDE SEQUENCE [LARGE SCALE MRNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL, U77594; AAB47975.1; -; MRNA.
EGBL; AB015632; BAA76499.1; -; MRNA.
EMBL; BC000069; AAH00069.1; -; MRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; CR861021; CAH33115.1; -; mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       163 AA; 18618 MW;
     cDNA sequences.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           18644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           149 YPPGOFAFS 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 YFPGOFAFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           163 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       use as long as i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    axID=9600;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ame=RARRES2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MIM; 601973;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TIG2 PONPY
Q5R551;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TIG2_PONPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 2
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RADILINE-22737999, PubMed=12853948, DOI=10.1038/nature01782;
RAJ Hiller L.W., Fulton R.S., Fulton L.A., Graves T.A., Pepin K.H.,
RAJ Wagner-McPherson C., Layman D., Mass J., Jaeger S., Walker R.,
RAJ Wylie K., Sekhon M. Becker M.C., O'Laughlin M.D., Schaller M.E.,
RAJ Wylie K., Delehauty K.D., Miner T.L., Nash W.E., Cordes M., Du H.,
RAJ Sewell G.A., Delehauty K.D., Miner T.L., Nash W.E., Cordes M., Du H.,
RAJ Vanbrunt A., Nauyen C., Du F., Lamar B., Courtney L., Kalicki J.,
RAJ Varbunt A., Harris R., Rock S.M.,
RAJ Kozlowicz-Reilly A., Leonard S., Rohlfing T., Rock S.M.,
RAJIST TIN WOLlam A.M., Abort A. Minx P., Maupin R., Strowmatt C.,
RAJ TIN WOLlam A.M., Abort A. Minx P., Maupin R., Strowmatt C.,
RAJ Ferreille P., Miller N., Johnson D., Murray J., Woessner J.P.,
RAJ Ferreille P., Miller N., Schulz B. B., Wallis J.W., Spieth J.,
RAJ Hickenbotham M.T., Eldred J., Walliams D., Bedell J. A.,
RAJIST R.A., Nelson J.O., Berkodicz N., Wohldmann P.E., Cook L.L.,
RAJ Gillett W., Zhou Y., James R., Marray J., Wardis B.K.,
RAJ Simms E., Levy R., Clendenning J., Kaul R., Kent W.J., Purey T.S.,
RAJ Baaley J.A., Portnoy M.E., Torrents D., Chinwalla A.T., Gish W.R.,
RAJ Baaley J.A., Portnoy M.E., Torrents D., Chinwalla A.T., Gish W.R.,
RAJ Waterston R.H., Wilson R.K.;
RAJ Waters
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryoèe, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Buarchontoglires, Primates, Catarrhini, Hominidae,
                                                                                                                  Gарв
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Halleck A., Ebert L., Mkoundinya M., Schick M., Eisenstein S., Neubert P., Kstrang K., Schatten R., Shen B., Henze S., Mar W., Korn B., Zuo D., Hu Y., LaBaer J.; Submitted (JUN-2004) to the EMBL/Genbank/DDBJ databases.

EMBL, AC005586; AAS00384.1; -; Genomic_DNA.

EMBL, CR541992; CAG46789.1; -; mRNA.
                                                                                                                        .
100.0%; Score 51; DB 1; Length 163; 100.0%; Pred. No. 0.091;
                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Le T., Ozersky P., Stoneking T., Wohldmann P.; Submitted (SEP-1998) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               to the EMBL/GenBank/DDBJ databas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10-MAY-2005 (TrEMBLrel. 30, Last sequence update) 10-MAY-2005 (TrEMBLrel. 30, Last annotation update) Hypothetical protein RARRES2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ą.
                                                                                                                        Mismatches
```

Page 1 US Patent Application Publication No.

```
2, 2005, 05:57:31; Search time 165 Seconds (without alignments) 22.791 Million cell updates/sec
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                 - protein search, using sw model
                                                                                                                         December
                                                                               OM protein
                                                                                                                         Run on:
```

US-10-603-566A-61 51 Title: Perfect score:

1 YPPGOFAFS 9 Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

1867569 segs, 417829326 residues Searched:

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Published Applications AA Main:*

(cgn2_6/ptodata/1/pubpaa/USO7_PUBCOMB.pep:*

(cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:*

(cgn2_6/ptodata/1/pubpaa/USIOA_PUBCOMB.pep:*

(cgn2_6/ptodata/1/pubpaa/USIOA_PUBCOMB.pep:*

(cgn2_6/ptodata/1/pubpaa/USIOB_PUBCOMB.pep:*

(cgn2_6/ptodata/1/pubpaa/USIOB_PUBCOMB.pep:*

(cgn2_6/ptodata/1/pubpaa/USIOB_PUBCOMB.pep:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	App1	Appl	Appl	Appl
g	61,	61,	62	62,	82,	85,	63,	63,	64,	64,	84,	84,	83,	83,	31,	31,	22,	53,	22,	23	54,	54	52,	52,	14,	14,	12,
Description	Sequence	Seguence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence
OI OI	US-10-603-566-61	-10-893	-10-603				-10-	US-10-893-485-63		ᅻ	10	US-10-893-485-84	US-10-603-566-83	10-	US-09-905-253A-31	US-10-201-187-31	US-10-603-566-22	US-10-603-566-53	ò	-	US-10-603-566-54	US-10-893-485-54	0-603	-10-	US-10-603-566-14	US-10-893-485-14	US-10-603-566-12
DB	4	Ŋ	4	Ŋ	4	S	4	2	4	Ŋ	4,	Ŋ	4	ß	m	4	4	4	S	Ŋ	4	ហ	4	'n	4	'n	4
Query Match Length	0	σ	ដ	10	=	11	15	12	13	13	15	15	17	17	18	18	19	19	19	19	20	20	25	25	137	137	143
Match	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Score	51	51	51	51	51	51	51	51	51	51	51	51	51	21	51	51	51	51	51	. 51	51	51	51	51	51	51	51
Regult No.	-	73	m	4	'n	9	7	80	σ	10	11	12	13	. 14	15	16	17	18	. 19	. 20	21	22	23.	24	25	56	27

7 2000 008 40 2 to	Sequence 12, Appl	Sequence 48, Appl	Sequence 73, Appl	Sequence 73, Appl	Sequence 945, App	Sequence 8, Appli	Sequence 8, Appli	Sequence 8, Appli	Sequence 17, Appl	Sequence 66, Appl	Sequence 8, Appli	Sequence 4779, Ap	Seguence 5, Appli	Sequence 71, Appl	71,	Sequence 97, Appl	Sequence 91, Appl	Sequence 91, Appl	
	•							`	`	V									
	43 5 US-10-893-485-12	57 4 US-10-201-187-48	57 4 US-10-603-566-73	S	160 3 US-09-925-301-945	m	4	63 4 US-10-603-566-8	63 5 US-10-626-686-17	ស	63 S US-10-893-485-8	ហ	163 5 US-10-958-527-5	9 4 US-10-603-566-71	9 5 US-10-893-485-71	9 5 US-10-893-485-97	13 4 US-10-603-566-91	13 5 US-10-893-485-91	
	Ä	∺	ä	=	Ä	Ä	ä	ř	ĭ	Ä	ä	ä	ä				_	_	
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	94.1	94.1	92.2	92.2	92.2	
	21	2	2	2	5	5	2	5	2	5	2	5	5	48	48	47	47	47	
	28	53	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	

ALIGNMENTS

```
Sequence 61, Application US/10603566

Publication No. US2004008696A1

GENERAL INFORMATION

GENERAL INFORMATION

APPLICANT: Wittener, Valerie

APPLICANT: Wordenbogaerde, Ann

APPLICANT: Vandenbogaerde, Ann

APPLICANT: Vandenbogaerde, Ann

APPLICANT: Parmentier, Macc

TITLE OF INVENTION: Compositions and Methods Comprising a Ligand of ChemerinR

FILLE REFERENCE: 9409/2212

CURRENT APPLICATION NUMBER: US/10/603,566

CURRENT APPLICATION NUMBER: US 60/303,858

FRIOR APPLICATION NUMBER: US 60/303,858

PRIOR FILING DATE: 2001-07-09

PRIOR FILING DATE: 2001-07-09

PRIOR FILING DATE: 2001-07-13

PRIOR FILING DATE: 2001-07-23

NUMBER OF SEQ ID NOS: 91

SOFTWARE: Patentin Version 3.2

SEQ ID NOS: 91

SEQ ID NOS: 91

SEQ ID NOS: 91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 61, Application US/10893485
Publication No. US20050155090A1
GENERAL INFORMATION:
APPLICANT: Wittamer, Valerie
APPLICANT: Communi, David
APPLICANT: Parmentier, Marc
APPLICANT: Parmentier, Marc
APPLICANT: Parmentier, Marc
TITLE REPERENCE: 9409/2045C
TURRENT APPLICATION: Compositions and Methods Comprising a Ligand of ChemerinR
FILE REFERENCE: 9409/2045C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Score 51; DB 4; I 100.0%; Pred. No. 1.7e+06; ative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 YPPGQFAFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YPPGOFAFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-893-485-61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-603-566-61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
```